Measured Progress

Asset Type: Constructed Response / Calculator: Non-Calculator
MA-05-1.5.01: Properties of Numbers and Operations - Students will identify and determine composite numbers, prime numbers, multiples of a number, factors of numbers, and least common multiples (LCM), and will apply these numbers to solve real-world problems. DOK-2

1.   a.   Jacob's mother made the schedule show below for Jacob's chores for the first 60 days of summer vacation.
      - Walk the dog every 2nd day starting on day 2.
      - Brush the dog every 3rd day starting on day 3.
      - Water the plants every 4th day starting on day 4.

   a.   On what day will Jacob first walk **and** brush the dog? Show or explain how you round your answer.

   b.   On what day will Jacob first do **all three** chores? Show or explain how you found your answer.

   c.   How many times in the 60 days will Jacob do all three chores on the same day? Show or explain how you found your answer.
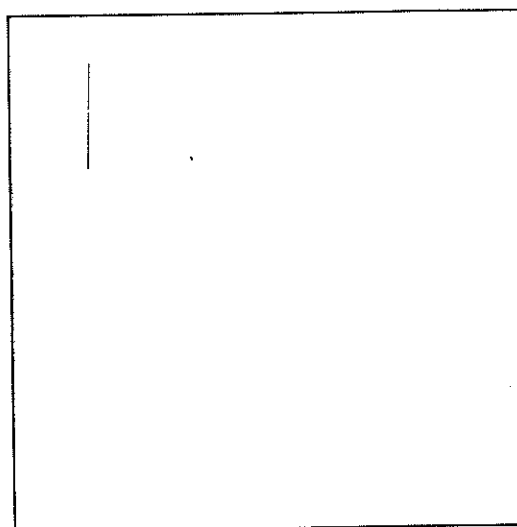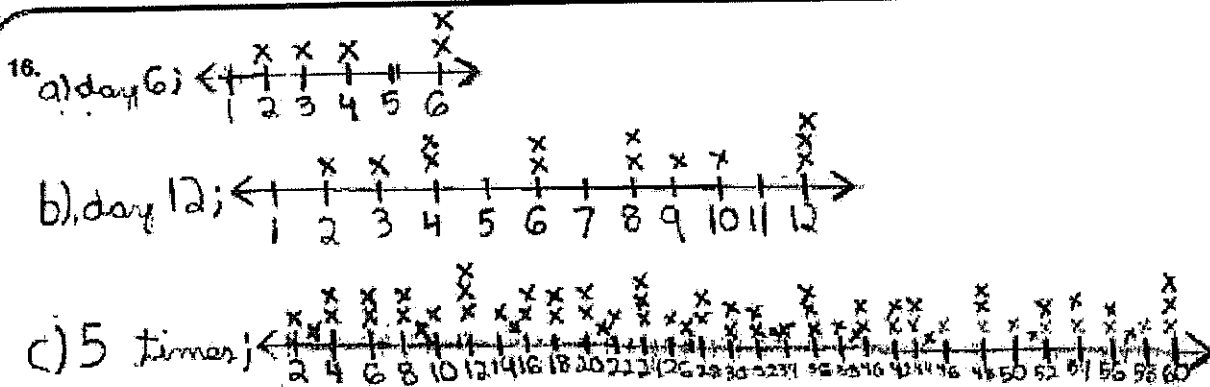
Scoring Guide

Score	Description
4	The student response demonstrates an exemplary understanding of the Number Operations and Procedures concepts involved in determining multiples of numbers to solve real-world problems.
3	The student response demonstrates a good understanding of the Number Operations and Procedures concepts involved in determining multiples of numbers to solve real-world problems. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 points.
2	The student response demonstrates a fair understanding of the Number Operations and Procedures concepts involved in determining multiples of numbers to solve real-world problems. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Number Operations and Procedures concepts involved in determining multiples of numbers to solve real-world problems.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

Part a: 6 because 6 is the least multiple of both 2 and 3.

Part b: 12 because twelve is the least common multiple of 2, 3, and 4.

Part c: 5 times. He will do all three chores on days 12, 24, 36, 48, and 60.

16.

a) day 6;

b) day 12;

c) 5 times;

16. A.) 2+2+2=6
3+3=6 =day 6

B.) 4+4+4=12
2+2+2+2+2+2=12 =day 12
3+3+3+3=12

C.) 4×6=24 =day24
3×8=24
2×12=24

only 2 times and
day 12 and on day
24.

2
2
0
———
4 → ③

A

16.

a. Day 6 he will do both. I found this by listing their least common multiples.

2, 4, 6
3, 6

b. Day 12 he will do all three This is because they all have the multiple of 12 in common.

2, 4, 6, 8, 10, (12)
3, 6, 9, (12)
4, 8, (12)

c. He will do all 4 times in 60 days.

2, 4, 6, 8, 10, (12), 14, 16, 18, 20, 22, (24), 26, 28, 30, 32, 34, (36), 38, 40 42, 44, 46, 48, 50, 52, 54, 56, 58, (60)

3, 6, 9, (12), 15, 18, 21, (24), 27, 30, 33, (36), 39, 42, 45, 48, 51, 54, 57, (60), 63, 66

4, 8, (12), 16, 20, (24), 28, 32, (36), 40, 44, 48, 52, 56, (60)
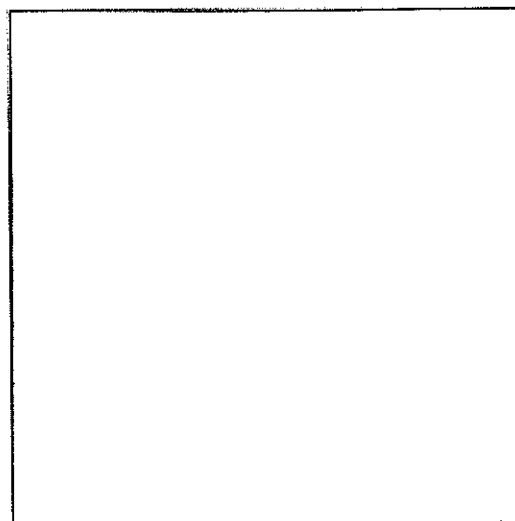
Contract: 6351 Math	Grade: 04	Content: Math
Booklet: 1401330821	Response Code: MA02216	
3		

misses the "48" →
in both lists.
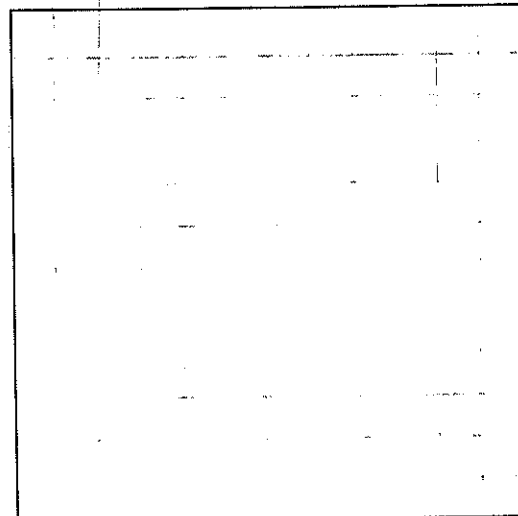
2
2
1
—
5 → (3)   correct strategy

A

Answer Space

16.

A
The 6 day

B
The 16 day

C
5 days

Contract: 6351 Math   Grade: 03   Content: Math

Booklet: 1302100019   Response Code: MA02316

2

A

1 answer only

0
1 answer only
———
2 → ②

16.

A. Seconds and first day. It tells you.

B. 5th day. It goes in order.

C. 5)60 ⑫

$$
\begin{array}{r}
1\,2 \\
5\overline{)60} \\
-50 \\
\hline
10 \\
-10 \\
\hline
0
\end{array}
$$

correct answer w/work
based on incorrect
answer in b.)

$$
\begin{array}{r}
0 \\
0 \\
2 \\
\hline
2
\end{array} \rightarrow ②
$$

A

6/30/06

16. (a) Day 12 will be the first day Jacob does both I found this out with a compassine.

(b) Day 12 will also be the day he does all 3 I found this out by a graph

(c) 8 times he will do all 3 I found this out by graph
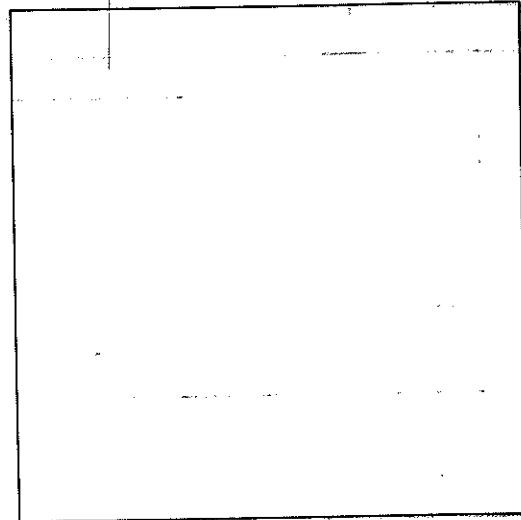
0
1 Answer only
0
—
1 → ①

A

Answer Space

16.

a. Jacob can't brush and walk the dog on 2 days. So I picked day 4.

b. Jacob can do his chores on the 4th day because he din't do it on day 2 or 3.

c. 1,218,240. First, I multiply 234 × 60. Next, I figure out the answer.

Asset Type: Constructed Response / Calculator: Non-Calculator
MA-05-5.3.01: Equations and Inequalities - Students will model real-world situations with simple number sentences (equations and inequalities) with a variable or a missing value, and apply number sentences to solve real-world problems. DOK-2

2.   Each shape below stands for the same number each time that shape appears.
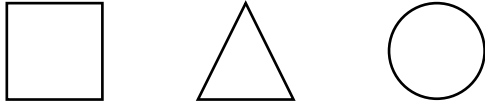
   a.   Use the equations below to find the value of each of the three shapes.

$$\bigcirc + \bigcirc + \bigcirc + \bigcirc = 36$$

$$\triangle + \square + \bigcirc = 13$$

$$\square + \square + \triangle = 5$$

   Write the value of each shape in the Answer Space. Show or explain how you found each of the three values.

   b.   Using as few of these shapes as possible, write the sum of shapes that has the value of 25.

Scoring Guide

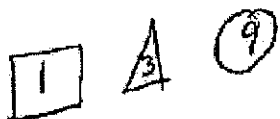| Score	Description
4	The student response demonstrates an exemplary understanding of the Algebraic Thinking concepts involved in using variables and simple number sentences to solve real-world problems.
3	The student response demonstrates a good understanding of the Algebraic Thinking concepts involved in using variables and simple number sentences to solve real-world problems. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 points.
2	The student response demonstrates a fair understanding of the Algebraic Thinking concepts involved in using variables and simple number sentences to solve real-world problems. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Algebraic Thinking concepts involved in using variables and simple number sentences to solve real-world problems.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

Part a: The circle is 9 because 4 circles = 36. Based on the last sentence, either the square is 1 and the triangle is 3 or the square is 2 and the triangle is 1. To make the middle sentence true, the square must be 1 and the triangle 3.
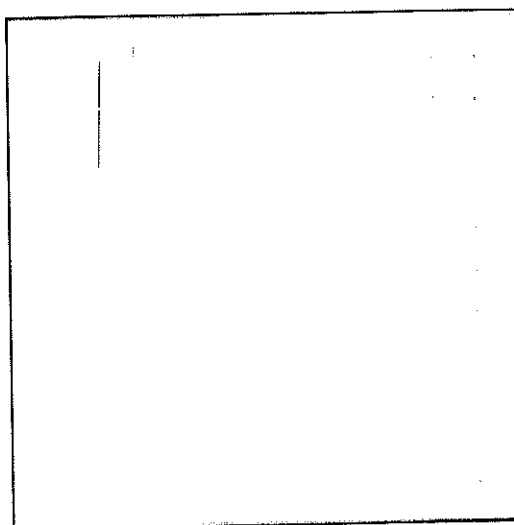
SECURE MATERIALS, DO NOT REPRODUCE

16.

□ △ ⑨
|1| 3

$9 \times 4 = 36$

$1 + 1 + 3 = 5$

$3 + 1 + 9 = 13$

$O + □ + O + △ + △ = 25$

| Contract: 6351 Math | | Grade: 03 | Content: Math |
| Booklet: 1305100111 | 4 | Response Code: MA05316 | |

④

Answer Space

16.
A. ○ = 9
△ = 3
▭ = 1

I found the answers by dividing 36 by 4 and getting nine for the circle. For answer B, I subtracted 9 from thirteen and got left with 4. I looked through my mind to find what can make 5 and got 3 plus 2. Since there were two squares, that meant two which left the triangle as three.

B. ○ + ○ + ▭ + ▭ + △ + ▭ + ▭ = 25
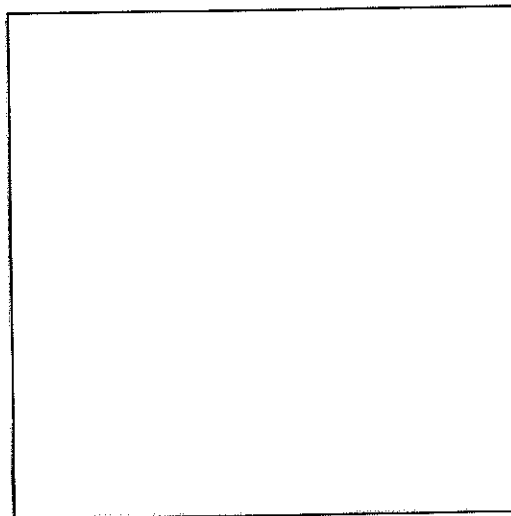
$\dfrac{\begin{matrix} 4 \\ 0.5 \end{matrix}}{4.5}$ ③

A

Answer Space

16.

$9 = O$ $9 \times 4 = 36$ so I knew it couldn't be something else

$3 = \triangle$ I knew after the O was 9 that I had to put three in the $\triangle$. I knew it was correct because in the 3rd problem there are 2 $\square$

$1 = \square$ I knew because there are two 1s and 1 3 space.
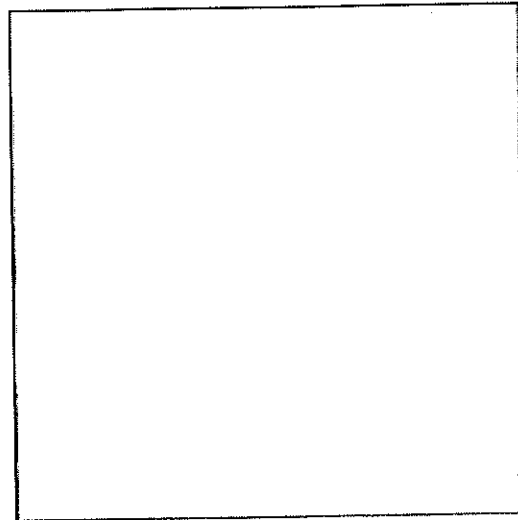
Contract: 6351 Math	Grade: 03	Content: Math
Booklet: 1305100001 3	Response Code: MA05316	

G. 4

1

4 points

3

$\frac{3}{0}{3}$ 3

A

6/30/06

Answer Space

16.
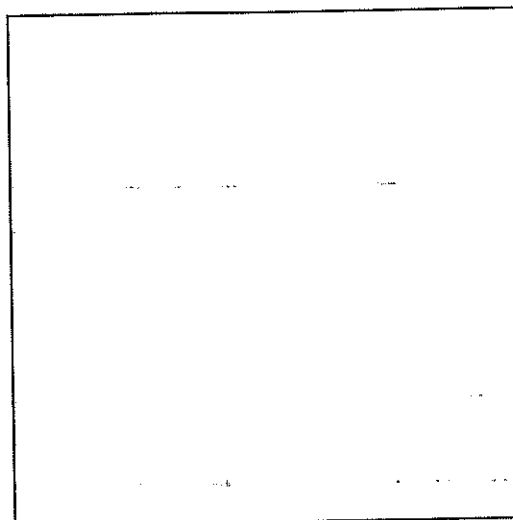
○ = 9

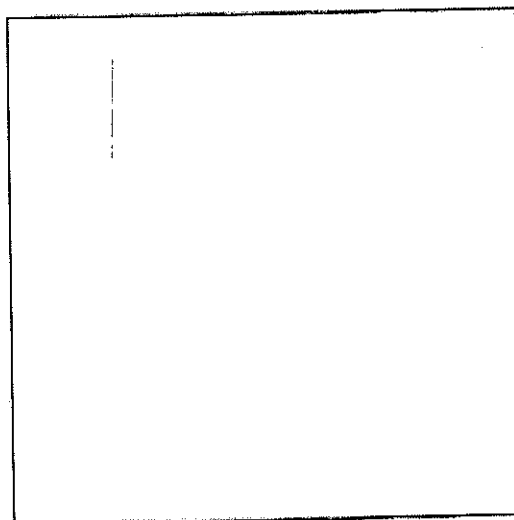△ = 3

□ = 1

②

$\frac{3}{0}{3}$

③

A

16.

A $\bigcirc = 9$ I found out the circle was nine because $36 \div 4 = 9$.

$\triangle = 1$ After I found out what the circle was everything

$\square = 2$ else fell in place and I was able to solve for triangle and square.

B. $\bigcirc + \bigcirc + \bigcirc - \square = 25$
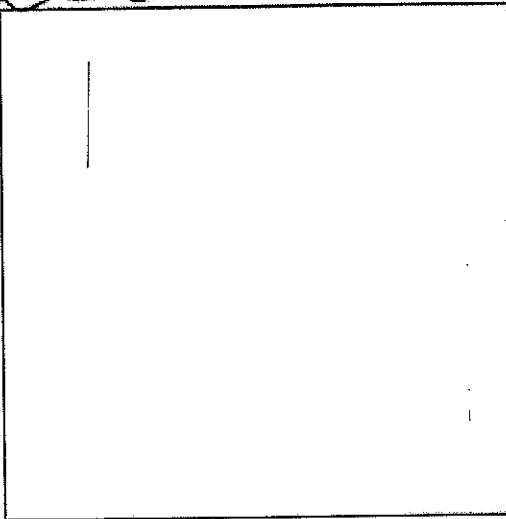
3   ②

$\dfrac{1}{0} = $ does subtraction
1

①

A

16.

A. $O = 5$ $\square = 3$ $\triangle = 2$

There are five cricles so cricle equals five.
There are 3 squares so square equals three.
There are 2 triangles so triangle equals two.

B. $O + O + O + O + O = 25$

Contract: 6351 Math	Grade: 03 Content: Math
Booklet: 1305100004	Response Code: MA05316

0
1 - based in a
____
((1)

A

16. $\triangle = 3$ $\square = 1$ $O = 8$

I added each of the numbers I thought might get the answer.

$\triangle + \triangle + \triangle + \square + \triangle + O + \square = 25$
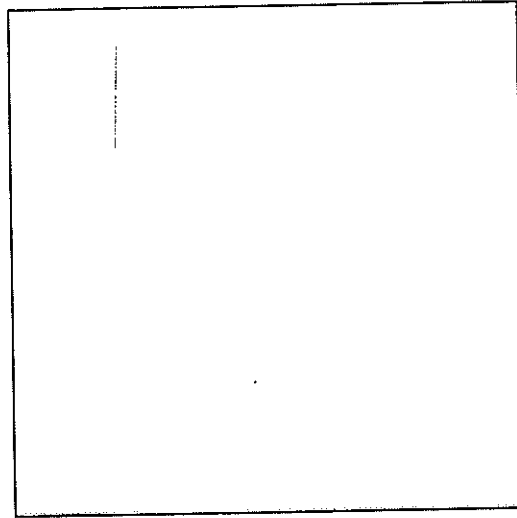
Contract: 6351 Math · Grade: 05 · Content: Math
Booklet: 1402330623 · Response Code: MA02116

Answer Space

16.

a. ⊕ + ⊕ + ⊕ + ⊕ = 36 (4 + 4 + 4 + 4 = 36) is not true.

△ + ☐1 + ⓞ = 13 (1 + 1 + 1 = 13) is not true.

☐2 + ☐2 + △ = 5 (2 + 2 + 1 = 5) is true.

b. ☐ + ☐ + ☐ + ☐ + ☐ = 25

16. Well first of all I did △ + □ +0 = 13 and that was only for number one, I solved it by looking at the pattern and the answer was 13. Also you could of done 13+36+5 and you would get the answer of 59 and also you could of done 36-13+5=ans

36-13+5= you have to get the answer.

. 36
 . 13 of ans.
 / 2 3 15 = 0

```
  1
  36
+ 13
  5
─────
 5 9
```

Contract: 6351 Math   Grade: 03   Content: Math
Booklet: 1305100077   0   Response Code: MA05316

Asset Type: Constructed Response / Calculator: Non-Calculator
MA-05-2.1.01: Measuring Physical Attributes - Students will apply standard units to measure: weight (ounce, pound; gram, kilogram), length (nearest eighth-of-an-inch or nearest centimeter), perimeter, area (figures that can be divided into rectangular shapes), time (nearest minute), temperature (Fahrenheit and Celsius), and angles (nearest degree). DOK-3

3.   Ricardo has exactly enough fencing to go around the rectangular garden shown below.

8 ft.

10 ft.
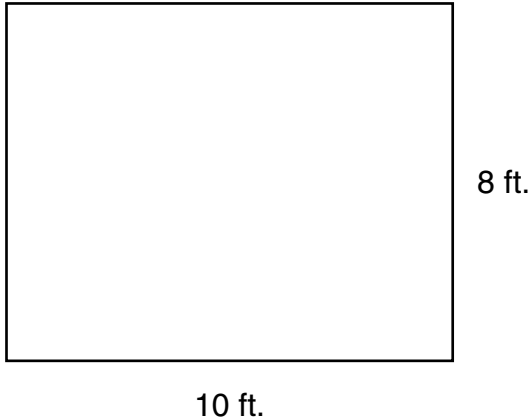
    a.   How many feet of fencing does Ricardo have? Show or explain how you found your answer.

    b.   What is the area in square feet of the garden shown above? Show or explain how you found your answer.

    c.   Maria has the same amount of fencing as Ricardo has.
- She made a rectangular garden that is only 6 feet wide.
- She used all her fencing.

What is the length in feet of Maria's garden? Show or explain how you found your answer.

BE SURE TO LABEL YOUR RESPONSES a, b, AND c.

Scoring Guide

Score	Description
4	The student response demonstrates an exemplary understanding of the Measurement concepts involved in determining area and perimeter to solve real-world problems.
3	The student response demonstrates a good understanding of the Measurement concepts involved in determining area and perimeter to solve real-world problems. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 points.
2	The student response demonstrates a fair understanding of the Measurement concepts involved in determining area and perimeter to solve real-world problems. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Measurement concepts involved in determining area and perimeter to solve real-world problems.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

Part a: 36 feet because $10 + 8 + 10 + 8 = 36$.
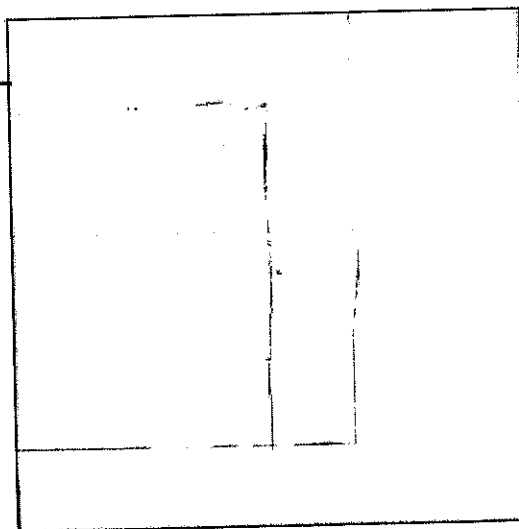
Part b: 80 square feet because $10 \times 8 = 80$.

Part c: 12 feet. Ricardo and Maria both used 36 feet of fencing. Maria's garden is 6 feet long, so she used 12 feet for the widths. That left 36 – 12 = 24 feet for the two lengths, and $24 \div 2 = 12$.

Answer Space

16. A. 8
       8
       10
     +10
     ___
      36   36 ft.

B.   8   80 square ft.
   X10
   ___
    80

C.   6   6 feet wide
     6
     12   12 feet tall
   +12
   ___
    36

16.

A. 8+8+10+10=36

b. 80

c. 6+6+12+12=36

12ft.

6ft.   6ft.

12ft.

a - 2
b - 1 no work
c - 2

5 pts.

③

Answer Space

16.

A. Ricardo has 36 feet of fencing.

B. The area is 80 sq. feet and I got the answer by 8×10 so it will equal 80.

C. The length of Maria's garden is 13 because 6+6=12 so 36-12=24 and then 24÷2=12.

X

```
  1
  1 0
  1 0
    8
+   8
────────
  3 6
```
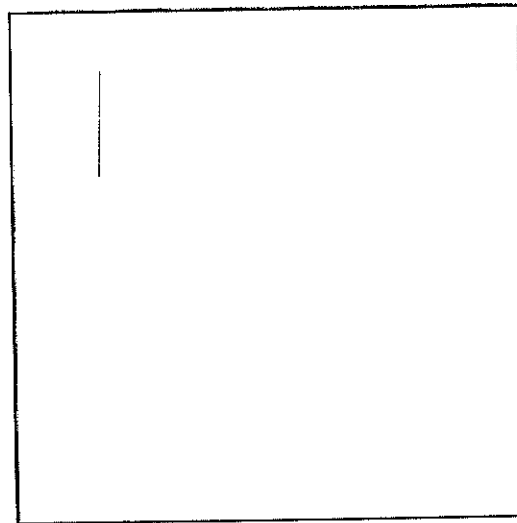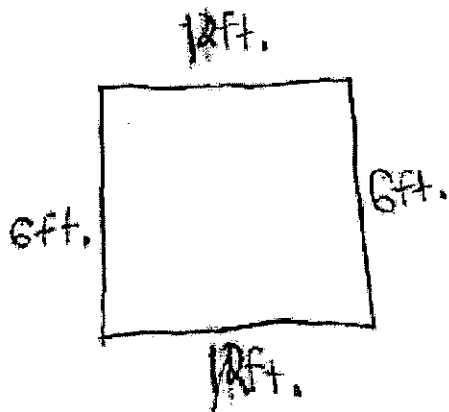
Contract: 6351 Math	Grade: 03 Content: Math
Booklet: 1304100203	Response Code: MA04316
comments go here. 3	

$\frac{2}{\frac{2}{1}}$ ③
5

Wrong answer (13) in c, but work is correct for 12.

16. (a) 36 ft. of fencing Explain: $10 \times 2 = 20 + 8 \times 2 = 16 + 20 + 16 = 36$ ft.

(b) 80 sq. ft Explain: $10 \times 8 = 80 \rightarrow$ (Ricardo) (Maria)

(c) 6ft of fencing on every side of her garden
Explain: $6 \times 6 = 36$ $6^2 = 36$ $6 \times 6 = 36$

6ft

6ft
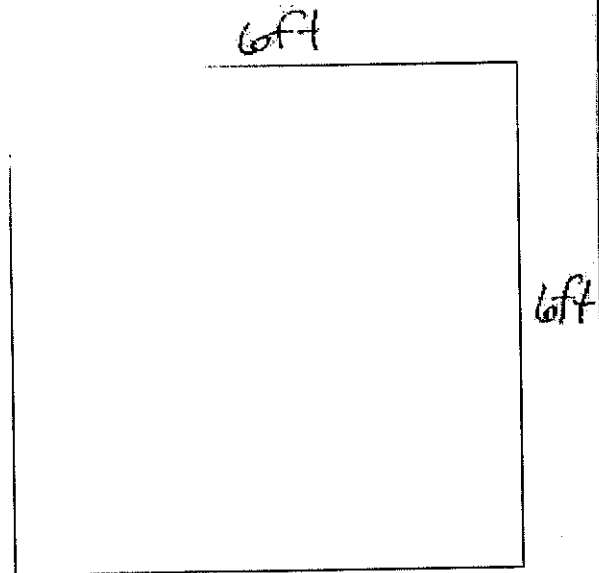
Contract: 6351 Math	Grade: 05	Content: Math
Booklet: 1402330215	Response Code: MA01116	
2comments go here. 2		

a — 2
b — 2
c — 0
___
4 pt.
②

6/29/2006

16. **A.** (32 ft.)

$= 32$ ft. of fencing

10
8   8
10
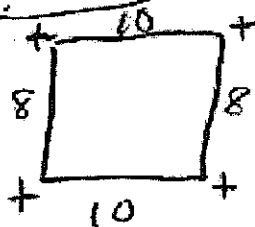
B. $32 ft^2$ because its the same thing

C. $6+6 = 12 + x^2 = 32$

it is 10 ft. because
$6+6 = 12 +$ she has same
as Ricardo so
$12 + X = 32$, $12+20=32$
$20/2 = 10$

a-1 compersor
b-0
c-2 based on a
3 pt.

② A

16.a. He has 116 ft. of fencing. 10x10x8x8=116.
b. 80 square feet. 8x10=80.
c. Maria's garden is 60 ft. 6x10=60.

"square"
O feet
rows up
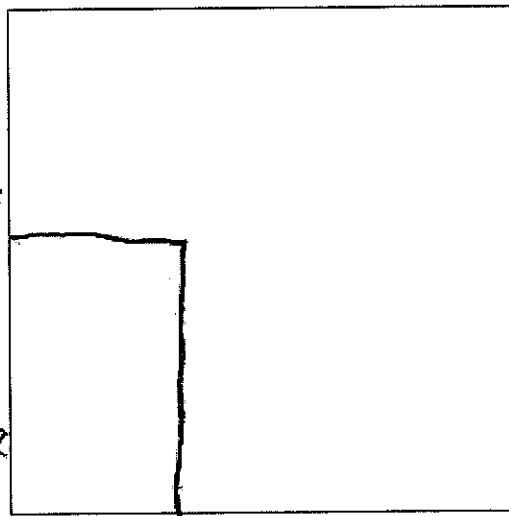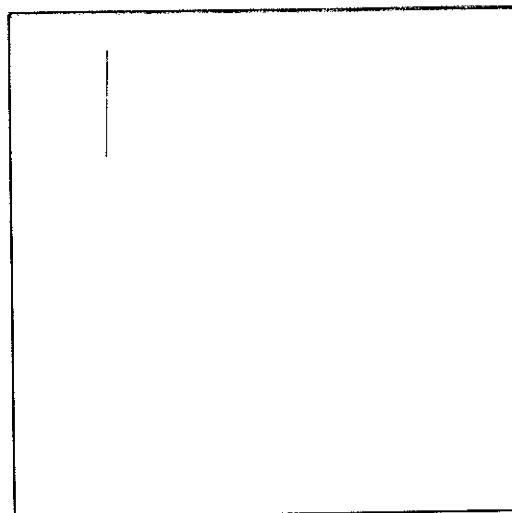
Contract: 6351 Math	Grade: 05	Content: Math
Booklet: 1402330477	Response Code: MA01116	
comments go here. 1		

a – 0
b – 2
c – 0

2 pt.

① A

Answer Space

16.

A 10
   10
+ 8
   ‾‾
   46

B 10
   10
   16
   ‾‾
   46

C 6
   6
   12
   10
   10
   ‾‾
   32

32ft

a - 1 comp error
b - 0
c - 0

1 pt.

① A

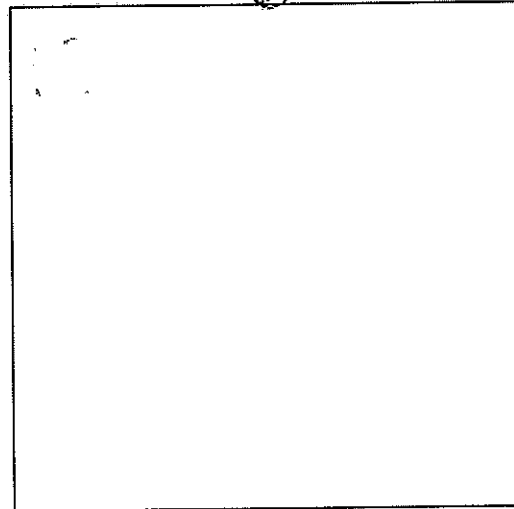**16.** a. 8 because if he puts it all around he would have to add 8+10= which is 80 feet

B
10+10=20
8+8= 16
    36 feet

12+12=24 feet

Because you have to add all sides,

6

6

6

6

A

Asset Type: Constructed Response / Calculator: Calculator Neutral
MA-05-1.1.01: Number Sense - Students will apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to represent whole numbers (0 to 99,999,999), commonly-used fractions, mixed numbers, and decimals through thousandths; apply these numbers to represent real-world problems, and explain how the base-10 number system relates to place value. DOK-2

4. Jennie, Tom, and Chris weeded Grandfather's garden. The picture below shows the parts of the garden each of them weeded.

Grandfather's Garden

Jennie	Tom
	Tom
	Chris

a. Write a fraction that tells how much of the whole garden Jennie weeded.
b. Write a fraction that tells how much of the whole garden Chris weeded. Use pictures or words to show how you found your answer.
c. Grandfather gave the children $24 for weeding the garden. The children decided to share the money based on how much weeding each of them did. How much money should each of them get? Explain or show how you found your answer.

BE SURE TO LABEL YOUR RESPONSES a, b, AND c.

Scoring Guide

Score	Description
4	The student response demonstrates an exemplary understanding of the Number Properties and Operations concepts involved in applying multiple representations to describe commonly-used fractions and solve real-world problems.
3	The student response demonstrates a good understanding of the Number Properties and Operations concepts involved in applying multiple representations to describe commonly-used fractions and solve real-world problems. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 points.
2	The student response demonstrates a fair understanding of the Number Properties and Operations concepts involved in applying multiple representations to describe commonly-used fractions and solve real-world problems. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Number Properties and Operations concepts involved in applying multiple representations to describe commonly-used fractions and solve real-world problems.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

Part a: $\frac{1}{2}$

Part b: He weeded $\frac{1}{6}$ of the garden.

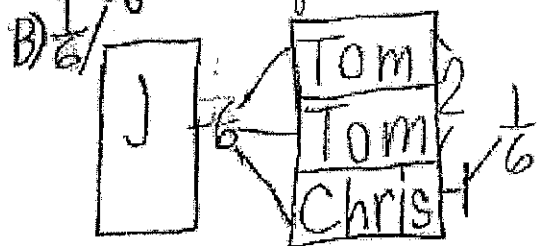I divided Jennie's part into 3 equal sections. So Chris's part is one out of 6 equal parts.

Part c:

Jennie: $\frac{1}{2}$ of $24 is $12.

Chris: $\frac{1}{6}$ of $24 is $4.

Tom gets the rest: 24 – 12 – 4 = $8

Answer Space

16. A) $\frac{1}{2}$ of the garden.

B) $\frac{1}{6}$

J | 6 → Tom ⟩2
Tom ⟩ $\frac{1}{6}$
Chris 1

C) J $12 / T $8 / C $4

J $\nearrow$ 24
12 - 12÷3=4   4-C
4+4=8-T

4

Answer Space

16.

$a \frac{1}{2}$ of the garden

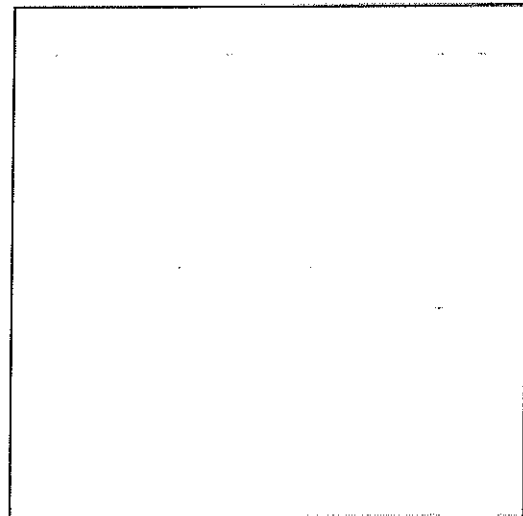$b \frac{1}{6}$ of the garden

C -1

Jennie = $12
tom = $8
Chris = $4

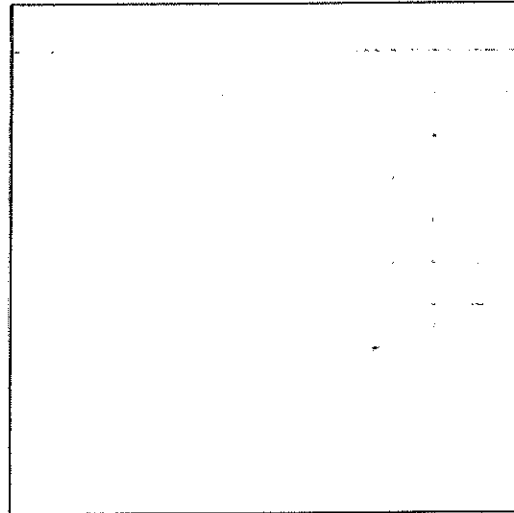| Contract: 6351 Math | Grade: 03 | Content: Math |
| Booklet: 1308040021 | Response Code: MA08316 | |

$a - 1$
$b - 1$ ③
$c - 2$

Answer Space

16.
a. $\frac{1}{2}$ of the garden   b. $\frac{1}{6}$ of the garden

b.

c. Jennie –$12   Tom –$7   Chris –$5

Since Jennie did half the lawn, she should get half the money. Since Tom did less than half, he should get a little less than half the money. Since Chris did the least, he should get the least money.

Contract: 6351 Math   Grade: 03   Content: Math
Booklet: 1308040361   Response Code: MA08316

a – 1
b – 2   ③
c – 1

Answer Space

16.

a. $\frac{3}{6}$ uny

b. $\frac{1}{6}$ c r s

C. Jennie gets $8

Tom gets $6.50

Chris gets $5.50
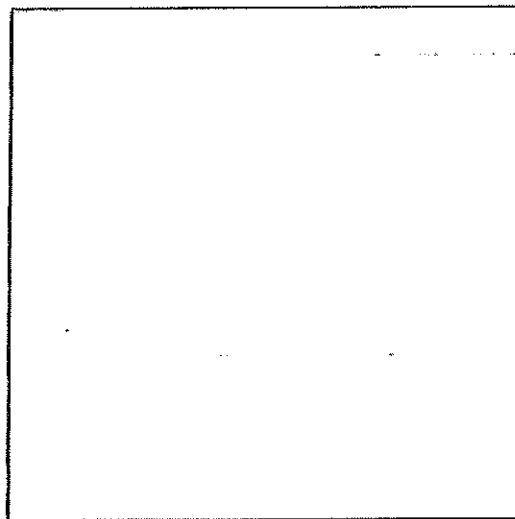
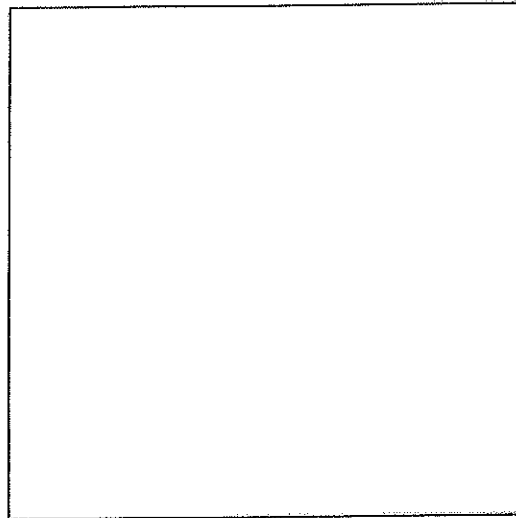|		
Contract: 6351 Math	**Grade:** 03	**Content:** Math
Booklet: 1308040026	**Response Code:** MA08316	

a -1   2

b. 1

0

Answer Space

16.

a. Jennie gets # 12 B. Tom gets # 8 C. Chris get #4   I found my answer by dividing Jennie did half she gets half Tom did more than chris so he got #8.

a - 1
b - 0
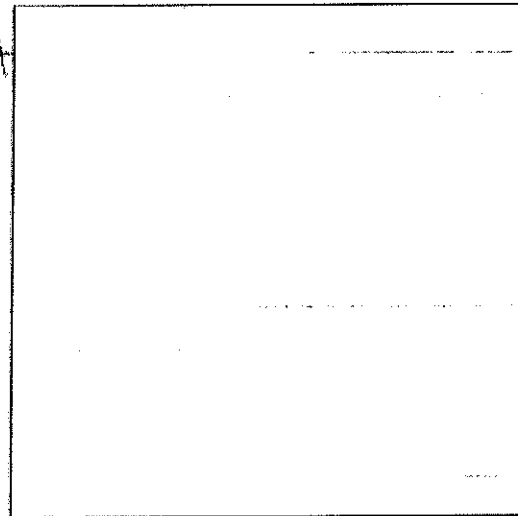c - 2

②

Reamed work
↓
not for Tom

Answer Space

18. a. $\frac{1}{2}$ = Jennie

b. $\frac{1}{4}$ = $\frac{1}{4}$ for chris

$\frac{1}{2}$ ' chris

c. Jennie = $12 because she did half the garden & half of 24 is 12.

Tom should get $8 because he did the 2nd most. Chris should get $4 because he did the least amount for the garden.

| Contract: 6351 Math | Grade: 03 | Content: Math |
| Booklet: 1308040151 | Response Code: MA08316 | |

a - 1
b 0
c - ?

Λ

Answer Space

16.

a. $\frac{1}{2}$

b. $\frac{2}{4}$

2 Jennie 48$ cause she did most the work. Tom 15$ cause he did the second most work Chris 9$ cause he did the lest work
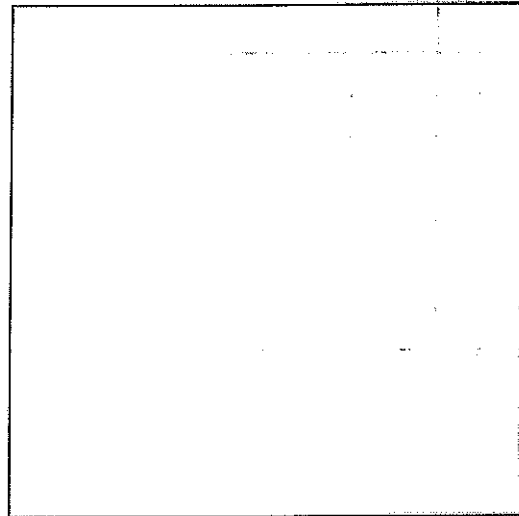
a — 1
b — 0
c — 0

①

| Answer Space |

16. a. Jennie weeded one whole part of the garden.

b. Chris weeded about $\frac{1}{5}$ of the garden.

c. They should get six dollars each because if you multiply six and four you get twenty four dollars.

| **Contract:** 6351 Math | **Grade:** 03 | **Content:** Math |
| **Booklet:** 1308040072 | **Response Code:** MA08316 | |